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ABSTRACT

Noting that high-quality preschool increases the ability of low-income children to profit from elementary and secondary education, thereby increasing their high school graduation rate and generating economic and other returns for taxpayers, this report articulates and analyzes the economic benefits of providing a high-quality preschool education to all low-income 3- and 4-year-olds in the United States, and especially in the Entergy [utilities conglomerate] states of Arkansas, Louisiana, Mississippi, and Texas. Data were obtained through previously published reports on the benefits of providing preschool to poor children, with additional original research to fill in information gaps. The report notes that benefits of high-quality preschool include reduction in crime; increases in high school graduation rates; increased employment, income, and tax levels; and decreases in health care, welfare, and child care expenses. The estimation of costs for high-quality, part-day, part-year programs was based on the actual average per-child costs of the Head Start program, including federal administrative and support costs. Benefits are identified for both taxpayers and program participants. The report concludes by contending that providing a high-quality preschool education to all low-income children makes good economic sense and that not doing so leaves the nation vulnerable to poorly educated, poorly motivated, low-wage-earning individuals with a greater propensity toward criminal activity. The report's two appendices include tables summarizing benefits by state and describe the extent of American and Southern poverty. (KB)

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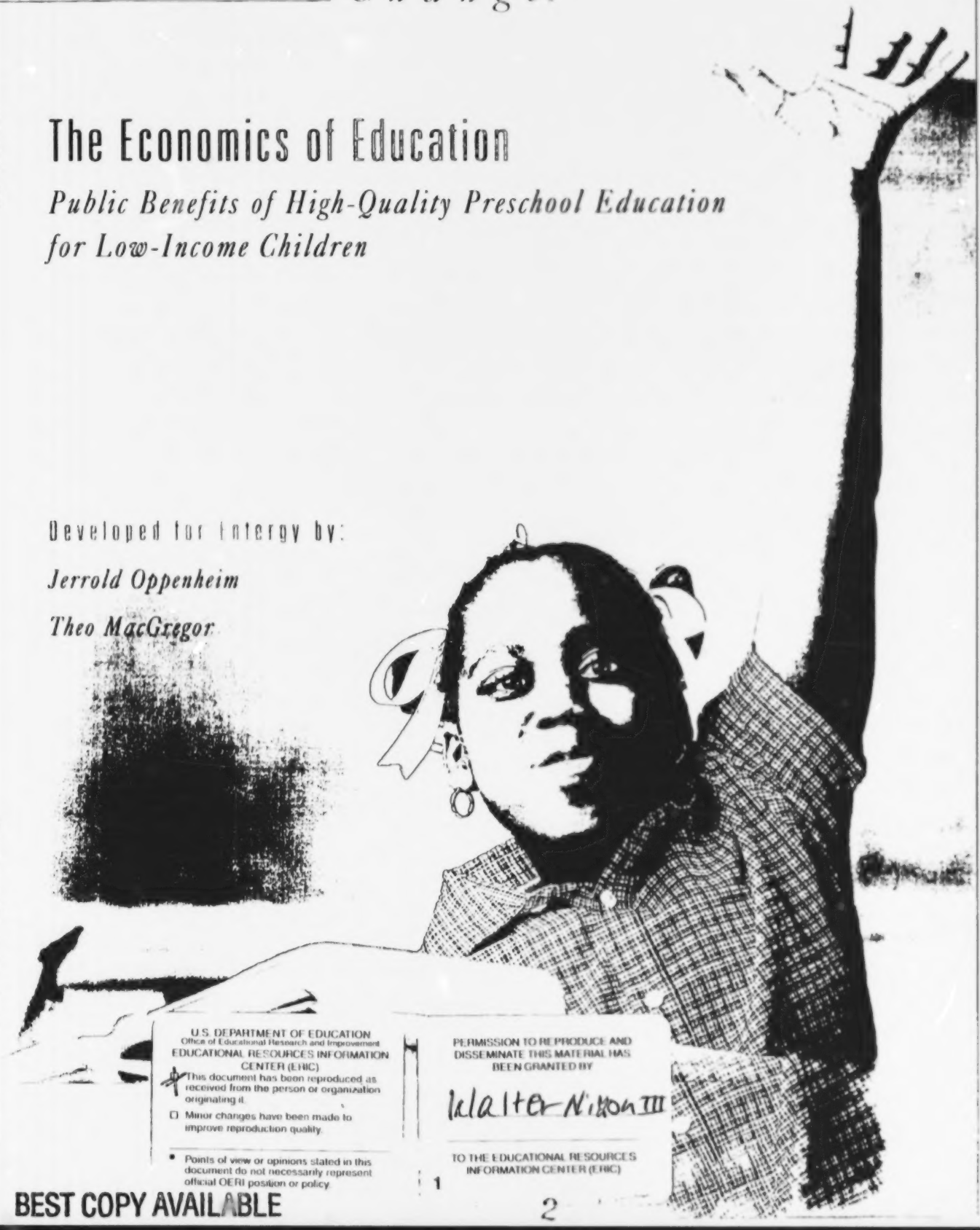
The Economics of Education

Public Benefits of High-Quality Preschool Education for Low-Income Children



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The Economics of Education

Public Benefits of High-Quality Preschool Education for Low-Income Children

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Introduction[1]

Invest in young children. Each dollar invested in the pre-school education of three- and four-year-old children from low-income families returns more than $9 to the nation, in present value terms.

Success or failure in a child's early years leads to success or failure in school and, consequently, throughout life. "Early learning begets later learning and early success breeds later success," and "the later in life we attempt to repair early deficits, the costlier the remediation becomes."[2] "As a society, we cannot afford to postpone investing in children until they become adults, nor can we wait until they reach school age – a time when it may be too late to intervene.... Early childhood interventions of high quality have lasting effects on learning and motivation."[3]

High-quality pre-school education increases the ability of low-income children to profit from elementary and secondary education, thereby increases high school graduation rates, and thus generates the following economic returns for taxpayers, alone worth more than double the investment:

- less need for welfare assistance;
- fewer claims for unemployment benefits;
- higher income tax payments;
- less burden on the criminal justice system;
- fewer children needing the costs of an added year in school; and
- fewer children needing costly special education services.

The public also benefits substantially from increased graduation rates that result in crime reduction. Benefits include reduced property loss as well as less personal injury, pain, and risk of death. Total public benefits, including taxpayer benefits, thus exceed eight times the initial investment.

Benefits to the children themselves and their families include reduced childcare expense and increased lifetime earnings.

As described later in this report, these benefits are conservatively estimated. Further, there are additional benefits that are not quantified here, which include:

- higher state and local sales, property, and other taxes paid as a result of increased incomes;
- improved nutrition and health, resulting in lower public (Medicaid) and private medical costs;[4]
- "multiplier" effects on families, as both parents and children of educated children achieve higher education and themselves generate the benefits described here;[5] and
- increased ability for parents to work while their children are well cared-for, resulting in increased incomes, reduced need for public assistance, and increased tax payments.

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[1] We are grateful for the research assistance of Dan Baw (Entergy Corp.), Mary Wagoner (Abacus Consulting Services) and Sonia Oppenheim (SqygeyNork Productions).

[2] James J. Heckman, "Invest in the Very Young" at 2, 3, Office of Prevention Fund and the University of Chicago Harris School of Public Policy Studies (2000).

[3] Id. at 5.

[4] The fraction of respondents reporting excellent or very good health rises from 38.7% to 57.8% with completion of high school, an increase of 19.1 percentage points. US Dept. of Education, National Center for Education Statistics, The Condition of Education 2001 at 31, 136;

[5] A. J. Reynolds et al., "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers" at 36 (Institute for Research on Poverty, University of Wisconsin, Feb. 2002).

This table summarizes the nationwide average costs and benefits of high-quality pre-school education for each low-income three- and four-year-old child:

US		Participant	Non-participant public, incl taxpayers	Total (Society)
COST	2 yrs		$ 12,282	$ 12,282
Child care		$ 2,361		
School				
	grade retention		$ 740	
	special ed		$ 7,576	
Crime				
	justice system, to age 28		$ 11,103	
	adult justice system		$ 4,893	
	victim costs, to age 28		$ 50,203	
	victim costs, after age 28		$ 21,779	
Earnings		$15,120		
Income Taxes			$ 2,095	
Welfare*			$ 2,511	-$ 2,260
Unemployment*			$ 875	-$ 787
TOTAL BENEFITS		$17,480	$101,774	$116,207
BENEFIT:COST RATIO			8.3	9.5
* transfer payments (no societal benefit except for estimated 10% admin cost)				
Taxpayer benefits (partial)			$ 29,793	
Benefit: Cost Ratio			2.4	

Thus, providing a high-quality preschool education for low-income children is an economic imperative. The benefits to doing so are enormous; the costs of not doing so are equally great.

Purpose of this Paper

Most people, when asked if all children should receive a high-quality preschool education, respond positively. When asked if society should pay for such an education for low-income children of three and four years of age, many people will still say yes, although they cannot articulate the reasons for their assent beyond believing that "it's a good idea." This paper articulates and analyzes the economic benefits of providing a high-quality preschool education to all low-income three- and four-year-olds in the United States, and especially in the Entergy states of Arkansas, Louisiana, Mississippi and Texas.

While scores of studies demonstrate short-term intellectual and educational benefits from enrolling children in preschool programs such as Head Start, many observers believed that these benefits do not last. However, recent long-term studies have found that high-quality preschool education leads to the long-term benefits described here, and that these benefits reverberate throughout the lives of the children and the greater society. "Poorly-educated workers are increasingly unable to earn a living wage in a global marketplace where skills matter more than ever before. Society pays in many ways for failing to take full advantage of the learning potential of all its children, from lost economic productivity and tax revenues to higher crime rates to diminished participation in the civic and cultural life of the nation."[*] A better educated and more stable workforce leads to a more productive society. High-quality preschool education for all children is the first step.

The paper relies in part on published reports of studies conducted in a number of states that have looked at various benefits of providing preschool education to poor children, including reduced crime rates, increased school attendance through high school graduation, increased employment and associated income levels, increases in the payment of income taxes, and reductions in welfare caseloads. In addition to adjusting these data, we conducted original research to fill in gaps in income and tax information, population of eligible children, welfare, unemployment and school expenditures, and current levels of services and costs. Since many of the benefits have been shown to accrue years and even decades after children have completed preschool programs, we aggregated the benefits on a net-present-value basis and calculated the total average economic effect of paying for one poor child to attend a high-quality early education program for two years. We also estimated the total cost to send all low-income children in the U.S. to such a program and the commensurate economic benefits to be achieved from this strategy. We did the same for the Entergy states, taking lower cost levels into account.

While we were able to estimate the cost per year to provide one child with a high-quality preschool education for two years, based on current spending on the federal Head Start program on a national average and in each of the Entergy states, our calculation of the total cost to the nation represents a top-end estimate. We estimated the number of three- and four-year-old children living at or below 125% of the Federal Poverty Level (FPL),[†] multiplied that number by the per child cost, and

[*] "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 1 (2002).

[†] Head Start eligibility is currently 100% of the Federal Poverty Level. Head Start Information and Publication Center, U.S Dept. of Health and Human Services.

deducted what is currently being spent on Head Start. We were unable to take into account current enrollment in all preschool education programs for three- and four-year olds, or other federal funding, if any, or to deduct the number of children who are enrolled in high-quality programs other than Head Start, because "reliable data on enrollment rates in prekindergarten programs are not available."[*] In addition, we know that some states (such as California, Connecticut, Hawaii, Illinois, New York, Oklahoma and Texas, among others) provide programs for some children; Georgia provides publicly funded pre-kindergarten to 58%-60% of its four-year olds (in addition to those enrolled in Head Start);[*] and Florida will vote on November 5, 2002, on whether to support state-funded preschool for all four-year olds by 2005.[*] Thus, our estimate of total cost for the United States is likely to be high.

Current State of Education for Children in the Entergy States

Nationwide, while 59% of all children ages three-to-five attended some type of out-of-home preschool program by 1999[*] (because most mothers work outside the home[*]), the rate varied greatly by race, income and the mother's level of education.[*] Many of these programs are staffed by poorly paid and poorly trained teachers or caregivers, with a high turnover rate.[*] Children of more affluent and better educated families can afford good preschool programs, whereas poor children are often relegated to the worst programs. Only 52% of eligible poor children attend the federally funded Head Start program, and participation rates vary widely among the states. In the Entergy states, the picture is even bleaker because the numbers of needy children are higher and the resources are fewer. The results in rates of high school graduation, lifetime earning levels, crime, home-ownership, and stable communities are striking.

In Arkansas, for example, low-income and/or African American children, who need the most help, are the least well-served. They are apt to be educated in the least well-maintained schools, have the least well-prepared teachers and inadequate support services, and have the highest dropout rates or lag far behind their more affluent contemporaries.[*] And with a large low-income and minority

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[*] "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 12 (2002).

[*] "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 11-13 (2002).

[*] Megan Tench, "Education group to unveil legislation," Boston Globe at B3 (October 23, 2002).

[*] "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 2, 8 (2002).

[*] According to the U.S. Department of Labor "Report on the American Workforce" at 126-127, tables 5-6, in 2000, 72% of women with children three-to-five years-old were in the labor force. Cited in "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 7 (2002).

[*] Among Hispanics, only 36% were likely to be enrolled; only 44% of children in families earning less than $10,000 vs. 71% from families with incomes over $75,000; and only 32% of children whose mothers had only an elementary school education vs. 68% of those whose mothers had college degrees. "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 17 (2002).

[*] "Preschool for All: Investing In a Productive and Just Society," a Statement by the Research and Policy Committee of the Center for Economic Development at 3 and 7 (2002). In 2000, 31 states set no minimum training requirements for preschool teachers and, in 1998, their median annual earnings were $17,310. Id. at 16.

[*] "Miles to Go: Arkansas," "Beyond High School: Economic Imperatives for Enlarging Equity and Achievement" at xi, Southern Education Foundation (2002).

population, Arkansas' tax revenue base is small because of the large number of poorly educated, low-wage earners – most with no more than a high school diploma.[16] Even with a high school diploma, economic opportunities have been dropping. The median income for families headed by men and women with only a high school diploma actually fell by 13% since 1973.[17] Yet Arkansas' high school graduates are less likely than those in 48 other states to go on to earn even a two-year college degree.[18] One recent study found that, "if the 2.5 million Arkansans had the average education of the U.S. and the consequent average income, the Gross State Product would be about $21 BILLION more."[19]

Even before high school, Arkansas' students are lagging behind the rest of the country. By eighth grade, in 1998, only 24% of Arkansas' students tested "proficient" or "advanced" in reading. Students in Louisiana and Mississippi ranked even lower. In math, only 13% to 14% of Arkansas children ranked "proficient" or "advanced" compared to almost twice that percentage for the rest of the nation.[20] Furthermore, these averages disguise large disparities in education resources provided and subsequent performance between upper- and lower-income groups and between white and minority children. Wealthier school districts spend an average of $9450 more per classroom per year than poorer districts, and Arkansas' average African American student in the eighth grade is virtually four years behind the average white student.[21]

In the other Entergy states, conditions are similar, with some worse and some better than others. Of the four Entergy states in 2000, Texas had the lowest percentage of children under five living in poverty (23.4% compared to 30.7% for Arkansas; 28% for Mississippi; and 30.5% for Louisiana, except for New Orleans, where 43.3% are living in poverty).[22] While these percentages have all come down since 1990, they are still some of the highest poverty rates in the country.[23]

Poverty rates are exacerbated by the paucity of full-time employment opportunities available to those without high school diplomas. In all four Entergy states, the percentage of children living in households in which no parent has full-time, year-round employment is staggering: Arkansas, 28%; Louisiana, 33%; Mississippi, 33%; and Texas, 28%.[24] To make matters worse, "87% of the new jobs in

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[16] Id. at 1-2.
[17] Id. at 2.
[18] Id. at 6.
[19] Robert Johnston and Lu Hardin, "Student Success: Graduation and Retention Rates in Arkansas" at 13 (emphasis in the original), Arkansas Department of Higher Education (July 17, 2001).
[20] "Miles to Go: Arkansas," "Beyond High School: Economic Imperatives for Enlarging Equity and Achievement" at 5, Southern Education Foundation (2002).
[21] Id. at 8 and 12.
[22] U.S. Census 2000 Supplementary Survey Data.
[23] U.S. Census 2000 Supplementary Survey Data. These data show that the percentage of children under five in the entire U.S living in poverty is 19.7%.
[24] "Children at Risk: State Trends 1990-2000," A First Look at Census 2000 Supplementary Survey Data, The Annie E. Casey Foundation.

Louisiana pay less than a livable wage" – defined as the minimum income necessary to meet a family's basic needs and about 33% less than the average family income in the state.[23] The story is likely similar in the other Entergy states, especially since the economy has faltered.

Louisiana, Mississippi and Texas all have similar percentages of citizens without a high school diploma as Arkansas (21.4%, 22.7%, and 21.7%, respectively, compared to Arkansas' 23.2%).[24] In Arkansas, Louisiana and Mississippi, high school graduation rates are expected to decrease over the next eight years (by 2.1%, 10.5% and 5.1%, respectively). Only in Texas is the rate projected to rise (by 11.7%).[25]

Very few students who do graduate from high school in Louisiana go on to college or any other post-secondary training; a very small percentage of working-age adults (ages 25 to 44) are enrolled in college or training programs; and the state invests virtually nothing in financial aid for low-income students. In addition, a very low proportion of Louisiana's adults perform well on national assessments of high-level literacy.[26]

In Mississippi, while a fairly large percentage of young adults (ages 18 to 24) are enrolled in education or training programs, a low percentage of students go on to college right after high school, and very few young adults are enrolled in college-level education or training. The state provides virtually no financial aid for low-income students to attend college.[27]

While Texas invests a limited amount in low-income financial aid, a very low percentage of students go on to college immediately after high school, and only a small proportion of working adults attend educational programs beyond high school. Consequently, only a small percentage of adults in Texas perform well on national assessments of high-level literacy.[28]

As for disparities in educational resources between low-income districts and those with higher level incomes, in Louisiana, the average amount spent in high-income districts is $24,925 higher per classroom than the average spent in low-income districts. The difference in spending between white and minority districts is $10,050 per classroom per year. The average African American student in Louisiana, Mississippi and Texas is between two-and-a-half and three-and-a-half years behind his white counterpart in math, science and reading by the time he is in eighth grade.[29]

Yet even with these great inequalities in education spending and resources in the public schools, poor and minority children who participate in high-quality preschool education programs can begin to close the performance gap and be able to take advantage of the many opportunities that a better education provides.

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[23] "Working Hard, Earning Less: The Story of Job Growth In Louisiana," National Priorities Project, Grassroots Factbook, Vol. I, Series 2 (Dec. 1998).

[24] "Measuring Up 2000, The State-by-State Report Card for Higher Education," The National Center for Public Policy and Higher Education (http:/measuringup2000.highereducation.org). These rates compare to the percentage of all Americans over 25 without a high school diploma or better in 2000: 16%. "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings" at 1, U.S. Census Bureau, U.S. Department of Commerce News (July 2002).

[25] "Measuring Up 2000, The State-by-State Report Card for Higher Education," The National Center for Public Policy and Higher Education (http:/measuringup2000.highereducation.org).

[26] Id.

[27] Id.

[28] Id.

[29] "State Summary of Louisiana," The Education Trust (www.edtrust.org).

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High-Quality Preschool Education: What does it mean?

Medical and educational research has demonstrated that the major development of intelligence, personality, and social behavior in people occurs in the first few years of life. "It is estimated, in fact, that half of all intellectual development potential is established by age four."[17] "Studies show that the human brain develops more rapidly between birth and age 5 than during any other time in a person's life" ... and that "children who participate in quality early education programs tend to be better prepared for school."[18] But even in Massachusetts, where 72% of children three-to-five years old attend preschool, 66% of programs do not provide what we describe here as "high-quality" educational experiences.[19]

A number of studies conducted in the United States in the 1960s and 1970s documented the fact that early intervention in a child's life affects development potential,[20] and that, therefore, the type and quality of education and child care provided to children before age five will have a profound effect on their entire lives. Positive intervention during this period of a child's development has rightly been characterized as a "chance of a lifetime," because it is the optimal time to influence a child's capacity to respond effectively to school and to be successful there and throughout life.[21]

Other studies have consistently shown that "the most vulnerable young children were also the most positively affected by high-quality early intervention."[22] At all levels of public education, kindergarten through grade 12 (and beyond), poor and minority children, on average, score lower than white and more affluent children on all standardized measurements. Yet many poor children learn just as much after they enter school as do their richer counterparts -- they simply begin so far behind that they can never catch up.[23] Thus, while all young children may benefit from high-quality preschool education programs, such programs can help level the playing field for low-income children and help them break the cycle of poverty.

A high-quality preschool education must include good nutrition and protection of children's health, including health screening, speech therapy, nursing and meal service;[24] stable, consistent relationships with a limited number of caregivers; warm, responsive interactions between children and caregivers; and a safe, supportive physical environment.[25] The program should provide support to parents and offer a good example of positive adult/child interaction and appropriate care. From a good preschool, parents should gain improved parenting skills that support their children during their school years. "In

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[17] "The Case for Early Intervention," Early Child Development: Investing in the Future, Chap. 1 at 2 (www.worldbank.org/children/ecd/book/1.htm).

[18] Megan Tench, "Education group to unveil legislation," Boston Globe at B3 (October 23, 2002).

[19] Megan Tench, "Education group to unveil legislation," Boston Globe at B3 (October 23, 2002).

[20] "The Case for Early Intervention," Early Child Development: Investing in the Future, Chap. 1 at 2 (www.worldbank.org/children/ecd/book/1.htm).

[21] Schweinhart, Lawrence J., Helen V. Barnes, & David P. Weikart, The High/Scope Perry Preschool Study Through Age 27, at 226. Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

[22] "The Case for Early Intervention," Early Child Development: Investing in the Future, Chap. 1 at 5 (www.worldbank.org/children/ecd/book/1.htm), citing the Abecedarian Study replicated on Project CARE and in the Infant Health and Development Program, a controlled trial at eight sites of the efficacy of educational techniques in the preschool segments of the Abecedarian and CARE studies.

[23] Barnett, W. Steven, et al., "Fragile Lives, Shattered Dreams: A Report on Implementation of Preschool Education in New Jersey's Abbott Districts" (2001), cited in "Gaining Ground: Achieving Excellence in High Poverty Schools," CCSSO Resource center on Educational Equity, Gaining Ground Newsletter (Washington, D. C., July 2001).

[24] Arthur J. Reynolds, et al., "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers," Institute for Research on Poverty Discussion Paper no. 1245-02 (Feb. 2002).

[25] "Making Investments in Young Children," National Association of Child Advocates Issue Brief (December 2000).

effective programs, staff treat parents as partners and engage in extensive outreach to parents ... to learn from parents and to help them understand the curriculum and their children's development."[41]

A well-respected long-term study of a program in Ypsilanti, Michigan (the High/Scope Perry Study) that followed a group of poor children from preschool through age 27 characterizes a high-quality preschool as one which provides "active learning" on a developmentally appropriate level; where there is an organized system of in-service training and ongoing curriculum supervision; active parental involvement and inclusion; and good administration, including regular monitoring and evaluation and a high adult-to-child ratio (no lower than one-to-ten).[42] Active learning should include early literacy skill-building, such as reading behavior, letter, sound and number recognition.[43]

A report by the National Research Council in 2000 said that the goal of a good preschool program is "to encourage social, emotional, physical, and cognitive progress." This goal means helping children develop skills, learn concepts, follow directions, play well with others, and become excited about learning. According to this report, good preschool classrooms should provide a nature center, an art center, a puppet center or play kitchen or restaurant, and blocks where the children could see pictures of real buildings while they play. Preschool teachers should be well-trained, well-paid, and have easy access to continuing professional education opportunities.[44]

Other study results indicate that a high-quality preschool program should serve children at both three and four years of age, in a two-year program with at least 12 hours of schooling per week (2 hours per day, five days a week).[45] Slightly shorter or even much longer days may provide similar benefits, but the High/Scope Perry Study emphasized that children should attend for the full two (school) years for maximum benefit.[46]

Studies also show that high-quality Head Start programs have a lasting impact on school achievement, rates of high school graduation, and other indicators of long-term success, and that poor-quality preschool programs can actually harm children, with poor children being at greater risk of harm than children from wealthier families.[47]

We now focus on some of the specific benefits that high-quality preschool education programs bring to the children who attend them and to the greater society.

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[41] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, Significant Benefits: The High/Scope Perry Preschool Study Through Age 27, at 17-18, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

[42] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, Significant Benefits: The High/Scope Perry Preschool Study Through Age 27, at 233-235, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

[43] Cindy Brown, "Early Childhood Education," in "Gaining Ground: Achieving Excellence in High Poverty Schools," CCSSO Resource center on Educational Equity, Gaining Ground Newsletter (Washington, D. C., July 2001).

[44] "Eager to Learn: Educating our Preschoolers." Cited in a Boston Globe editorial at A18 (Oct. 23, 2002).

[45] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, The High/Scope Perry Preschool Study Through Age 27, at 234, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993); "Safe Start: How Early Experiences can Help Reduce Violence" (www.ounceofprevention.org/publications/pubsafestart.html).

[46] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, The High/Scope Perry Preschool Study Through Age 27, at 234, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

[47] "Making Investments in Young Children," National Association of Child Advocates Issue Brief, citing S. W. Barnett, "Does Head Start Have lasting Cognitive Effects?" the Study of Early Child Care of the National Institute of Child Health and Human Development (NICHD), and Frank Porter Graham Center, "Cost, Quality and Outcomes," (December 2000).

BENEFITS

Reduction in Crime

The greatest economic benefit of providing high-quality preschool education to disadvantaged children is a dramatic reduction in crime. A 14-year study of children who had attended Chicago's Child-Parent Center preschool program compared them to a similar group of children who had not attended the program. Results showed that those who did not receive the benefit of the preschool program had 70% more arrests for violent crime by age 18 than did program participants. The High/Scope Perry Study showed that the risk of becoming chronic lawbreakers as adults was five times as high for children without access to high-quality preschool education.[48]

The economic impact of these results is astonishing. A 1997 study by Professor Mark A. Cohen of Vanderbilt University estimated that for each person that was prevented from adopting a life of crime, the country could save between $1.7 and $2.3 million.[49] And Rutgers University economist Steven Barnett calculated that the savings to society from providing at least two years of high-quality preschool education to poor children is on average nearly $70,000 per child from reduced crime alone, and about $88,000 once welfare, tax and other savings are included.[50]

Put another way, not counting the increase in earnings and all the other benefits derived from a person's leading a productive life instead of going to prison, for every dollar invested in high-quality preschool education for low-income children, the savings to the government and to victims of crime is $3.83. And that does not even take into account the value of reduced pain and suffering of those who would be the crime victims.[51]

Some work has been done on connecting violent crime prevention and preschool education. Studies show that, even more important to crime prevention than knowing the difference between right and wrong is the ability to control one's own behavior; that is a learned skill. An important center for this type of learning is a high-quality preschool, where children learn the difference between acceptable and unacceptable behavior at an early age, before negative behavior patterns are established.[52] Here children also develop cognitive skills that better prepare them to succeed in school; failure in school is a strong predictor of future violent behavior.

Increase in High School Graduation Rates

A declining share of students who enter the ninth grade in public high schools are graduating with regular high school diplomas four years later. While many are going on to earn their GED or high school equivalency diploma, Mississippi and Louisiana were third and sixth lowest in the nation in the number of public high school graduations in 1999 (56% and 55%, respectively); in Louisiana, very few students go on to earn their GED.[53] As noted above, while a high school diploma can no longer be

[48] "America's Child Care Crisis: A Crime Prevention Tragedy," A report from Fight Crime: Invest in Kids, Sanford Newman, J.D., President (January 2000).
[49] Id. at 18.
[50] Id. at 17.
[51] Id. at 18.
[52] "Safe Start: How Early Experiences Can Help Reduce Violence" (www.ounceofprevention.org/publications/pubsafestart.html).
[53] "High School Graduation Trends and Patterns 1981-2000," Postsecondary Education Opportunity newsletter

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counted on to provide a high standard of living in a global economy, it lays the foundation upon which all higher education is based. A high-quality preschool education for the most vulnerable children can raise the percentage of those completing high school.

In the High/Scope Perry Study, researchers found that 71% of program enrollees completed high school (or received a GED) compared to 54% of children who did not attend the program, with girls showing an even higher success rate (84% versus 35%). In addition, significantly fewer program children (8%) were placed in special education or were forced to repeat one or more grade of school than non-program children (36% and 37%, respectively). The program students, on average, far surpassed the education levels of their parents, and most girls who became pregnant finished high school (73%) versus only 21% of teen mothers not in the program. All of the program participants showed a better attitude toward school and learning.[54]

The Chicago Longitudinal Study found that Child-Parent Center (CPC) program participants had better reading and math scores at age 15 than non-enrollees, were 31% less likely to be retained in a grade, and were less likely to receive special education services.[55] This study also found that children who attended the program in neighborhoods with the highest poverty levels benefited more in later school achievement than did others.[56]

The Chicago Longitudinal Study notes that the highest rates of school dropouts take place in large urban school districts, and that the annual cost to society of high school dropouts is $250 billion in lost earnings and foregone tax revenues. Also, dropouts are more likely to be unemployed, to experience health problems, and to become involved in the criminal justice system. Students who participated in the CPC programs had a 26% higher graduation rate than non-participants and, unlike in the Perry Study cited above, program boys' graduation rate compared to the non-program boys' rate was greater than the program girls' rate over that of non-program girls (41% versus 18%).[57]

In both of these studies, being retained in a grade was associated with dropping out of school before high school graduation. These studies also found that participating in a high-quality preschool education lowered the grade retention rates substantially. Similar studies in Asia, the Middle East and Latin America have confirmed that early education programs can increase school readiness and lower grade repetition and dropout rates.[58] Reducing retention in elementary or later grades, combined with the increased high school graduation rates, more than offsets the cost of providing the preschool education.[60] Children who attend high-quality preschool programs begin school ready to learn, have a better attitude toward school, are viewed by teachers as more likely to succeed, and they often rise to the level of these higher expectations. Poor and minority children often begin school with decided disadvantages, and a high-quality preschool education can help them to overcome these barriers by motivating them to remain in school through high school graduation.

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[54] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, Significant Benefits: The High/Scope Perry Preschool Study Through Age 27, at 55, 63, 78, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

[55] Chicago Longitudinal Study Newsletter, Issue 2 (June 2002).

[56] Chicago Longitudinal Study Newsletter, Issue 1 at 7 (June 2001).

[57] Chicago Longitudinal Study Newsletter, Issue 1 at 10 (June 2001).

[58] Students who were retained even in elementary grades had a 30% higher dropout rate and a 33% lower high school graduation rate than their peers who were not retained. Chicago Longitudinal Study Newsletter, Issue 1 at 10 (June 2001).

[59] "The Case for Early Intervention," Early Child Development: Investing in the Future, Chap. 1 at 5 (www.worldbank.org/children/ecd/book/1.htm).

[60] "Cost-Effectiveness," Why ECD? Operational Studies, (www.worldbank.org/children/why/generate.htm).

Increased Employment, Income and Tax Levels

Adults with lower education levels, in general, are more likely to be unemployed than those who have attained high school diplomas or higher degrees or training. The 1999 unemployment rate for adults over 25 who were non-high school graduates was 6.7%, compared with a rate of 3.5% for those with four years of high school and 1.8% for those with a bachelor's degree. However, on a brighter note, African Americans and Hispanics with a high school diploma were more likely to be in the labor force than all people with just a diploma or its equivalent.[61]

As noted earlier, a high school diploma or its equivalent is a necessary pre-condition for higher wages and lifetime earnings, and high-quality preschool education increases the likelihood of a student's graduating from high school. Studies of the economic returns of high school completion estimate that each "additional year of high school is associated with an 8-percent increase in lifetime wages."[62] The difference in annual earnings for a 35- to 44-year old man who has graduated from high school compared to one who has only completed ninth grade, on average, is $12,473. For a woman in the same age bracket, the difference is $8164.[63] For men aged 25 to 34 in 1997, those whose highest education level was between ninth and eleventh grade earned 29% less than those who had a high school diploma or a GED. For women, the comparable figure is 37%. For those in the same age those in the same age group who had earned a bachelor's degree or higher, earnings were 50% higher for men and 91% higher for women than for those with only a high school diploma or GED.[64]

The reasons for these discrepancies in earnings associated with differences in education levels are many, but in recent years, the primary reasons are that new technologies favor more skilled and better educated workers; labor unions have declined; and minimum wage levels have declined in real terms.[65] And whites earn more than African Americans or Hispanics at every level of educational attainment: from $1.3 million in lifetime earnings compared to $1.1 million with a high school diploma, to $2.2 million for whites with a bachelor's degree compared to $1.7 million for African Americans and Hispanics. But all do much better than any group without at least a high school diploma or its equivalent.[66]

The Chicago study of children who had gone through the Child-Parent Center programs found that the greatest program benefit was participants' increased earnings capacity (a benefit of $21,988). For an average cost per child of $6,730, this benefit alone is worth $3.27 for every dollar spent on the program. For society as a whole, increased tax revenues associated with the increased earnings provided the largest benefit (28% of societal benefits).[67] Other calculated benefits included criminal justice system savings, savings on tangible costs to crime victims, and savings on school remedial services, all discussed above.

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[61] "Outcomes of Education" at 2 (http://nces.ed.gov/pubs2001/digest/ch5.html).

[62] Id.

[63] Information published by Postsecondary Education Opportunity, using U.S. Census Bureau data.

[64] "Annual earnings of young adults, by educational attainment" at 1, The Condition of Education (http://nces.ed.gov/pubs99/condition99/indicator-12.html).

[65] "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings" at 3, U.S. Census Bureau, U.S. Department of Commerce News (July 2002).

[66] Id. at 7.

[67] Arthur J. Reynolds, et al., "Age 21 Cost-Benefit Analysis of the Title I Chicago Child Parent Center Program, Executive Summary at 2 (June 2001).

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The High/Scope Perry Study found that men who had been program participants had significantly higher monthly earnings and higher rates of home ownership than did non-participants. Specifically, at age 27, 29% of these "program" men reported monthly earnings of $2000 or more, while only 7% of their non-program counterparts earned as much. For program women, the difference was in whether they were working at all by age 27: 80% of program women but only 55% of non-program counterparts were employed. Perhaps even more significantly, 36% of the program group owned their own homes by age 27, while only 13% of the non-program group did. And only 59% of group members had received welfare assistance or other social services as adults, compared to 80% of the non-program group.[68]

Decrease in Health Care, Welfare, and Child Care Expense

Health Care

The Arkansas Department of Higher Education did a study in 2001, "Student Success: Graduation and Retention Rates in Arkansas," in which the major findings confirmed what other studies have concluded: there is a strong relationship between education and good health. Higher education leads to higher income, which leads to better health; and higher education alone leads to better health, even among those with the same income.[69]

The better educated people are, the more likely they are to self-report being in "excellent" or "very good" health, according to the National Center for Health Statistics in the National Health Interview Survey report. People with a bachelor's degree or higher were twice as likely to report this condition as were those with less than a high school diploma (80% versus 39%).[70] Family income is also related to health: in the same survey, people earning over $75,000 a year were nearly twice as likely (80% to 41%) to report being in excellent or very good health compared to those earning less than $20,000 per year.[71]

In the Perry study, program participants were much like non-participants at age 27 when it came to general health and frequency of doctor visits, but there were some significant differences in a few areas where better education most likely played a role: more program members said they usually or always wore a seat belt (57% versus 34%); fewer program members smoked cigarettes (45% versus 56%); and program members drank alcoholic beverages less frequently.[72]

Welfare

In addition to better health, young adults who have participated in high-quality preschool education programs rely less on the welfare system than do their similar counterparts from low-income families. The Perry Study found that significantly fewer male program participants had received social services than had non-program men (59% versus 80%) by age 27. Social services included welfare or

[68] Lawrence J. Schweinhart, "Lasting Benefits of Preschool Programs" at 2, (ERIC Digest, Jan. 1994).

[69] Robert Johnston and Lu Hardin, "Student Success: Graduation and Retention Rates in Arkansas" at 4, Arkansas Department of Higher Education (July 17, 2002).

[70] U. S. Department of Education, National Center for Educational Statistics, The Condition of Education 2001 at 31, NCES 2001-072, Washington, DC: U.S. Government Printing Office (2001).

[71] Id.

[72] Lawrence J. Schweinhart, Helen V. Barnes, & David P. Weikart, Significant Benefits: The High/Scope Perry Preschool Study Through Age 27, at 134, Educational Research Foundation, Ypsilanti, Michigan (High Scope Press, 1993).

or other public assistance such as food stamps and General Assistance, as well as protective services, Medicaid and public housing. And those that did receive services averaged noticeably fewer months on assistance than did the no-program group up to the time they were interviewed at age 27 (18.2 versus 26.3 months).[73]

For women who participated in the Perry School program, results were even more dramatic. Program women spent only 32 months receiving welfare assistance versus 50.7 months for no-program women; significantly fewer were receiving money from the government at age 27 (26% versus 59%); far fewer were receiving food stamps (21% versus 50%); and far fewer were receiving welfare (17% versus 41%).[74]

Child Care

In addition to savings on health care and welfare expense, providing high-quality preschool education saves on the costs associated with less-beneficial child care while the children are attending the preschool programs. Of course, the preschool programs themselves provide child care, and it should encompass all of the elements of a high-quality program described above. Savings on current child care expense will vary by the length of time children spend in the preschool programs, but estimates can be made of savings that accrue from a program that lasts two-and-a-half hours a day, five days a week, during the regular school year.

[73] Id. at 106.
[74] Id. at 109-110.

ESTIMATION OF BENEFITS AND COSTS

Cost of investment

The studies on which the benefit findings are based evaluated high-quality, part-day, part-year programs that extended over two years. Their costs, in 2002 dollars, vary from $10,168[75] to $13,279.[76] The midpoint of the Committee for Economic Development projection is below either, at $9000.[77]

We based our estimate on the actual average per-child costs (which vary by state) of the Head Start program, including federal administrative and support costs. This cost is at the upper end of the studies' range, at $12,282.[78]

Taxpayer Benefits

School costs: retention in grade

As described earlier, children who receive a high-quality preschool education do better in school. One manifestation of this is that they are less likely to need to repeat a grade. By age 15, the incidence of children held back to repeat a grade was reduced from 38.4% to 23.0% for similar children with the benefit of preschool education[79] – a drop of 15.4 percentage points. To translate this decrease in schooling cost to a dollar benefit, we took the net present value[80] of the cost of an extra year of schooling at age 19, i.e., 16 years from the time of investment, and multiplied it by the probability that a preschool education would save a child from repeating a grade (15.4%). The cost of the extra year was based on per-pupil expenditures reported by the U.S. Department of Education (which we inflated to 2002 dollars) and varies by state.[81] Nationally, the net present value per participant is $740.

School costs: special education

In some cases, children who are not performing well in school are assigned to classes to accommodate learning disabilities, classes for the mentally challenged, or other forms of special education for children with disabilities. Children who have received high-quality preschool education are less likely to need this specialized, costly attention. By age 18, for example, the incidence of special education assignment was reduced from 24.6% to 14.4%,[82] a reduction of 10.2 percentage points. To quantify this effect, we relied on the net present value of actual savings computed by one study that

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[75] Chicago Longitudinal Study, Issue 1 at 10 (University of Wisconsin, Aug. 2000).

[76] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at 33 (High/Scope Press, Ypsilanti, 1993). Based on study's projection of minimum cost of full-scale program on the Perry model.

[77] Research and Policy Committee, "Preschool for All - Investing in a Productive and Just Society" (Committee For Economic Development, 2002) at Appendix.

[78] US HHS.

[79] A.J. Reynolds et al., "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers" at Table 4 (Institute for Research on Poverty, University of Wisconsin, Feb. 2002).

[80] All net present value calculations use a 3% societal discount rate.

[81] U.S. Dept. of Education, National Center for Educational Statistics.

[82] A.J. Reynolds et al., "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers" at Table 4 (Institute for Research on Poverty, University of Wisconsin, Feb. 2002).

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examined individual child records;[83] we inflated this value to 2002 dollars, and discounted it to reflect the difference in total per-pupil expenditures between Michigan (where that study was performed) and the other states. The net present value of the reduction in special education services for the average participant nationally is $7,576.

Crime: Justice system, Victim costs

It has been estimated that saving one child from a life of crime saves society between $1.7 and $2.3 million (midpoint $2.0 million),[84] which has a present value of about $1 million if the damage is inflicted equally across a criminal's 13th through 40th years.[85] Preschool education reduced the fraction of at-risk children (i.e., chronic offenders, who have been arrested at least five times) from 35% to 7%,[86] a reduction of 28 percentage points. This suggests the net present value of reduced crime is $296,251 per preschool participant.

We used a more modest estimate, which totals $87,976 net present value in 2002 dollars and is divided into separate estimates for costs to the judicial system and private (victim) costs.[87] The estimate is based on an analysis of actual crimes committed (through age 27, which is the period studied, and a projection thereafter) and victim costs by type of crime.[88] The study we relied on was based on national data. Of course, judicial system costs vary by state, as do victim costs. As a proxy for these cost-of-living differences among state institutions, we adjusted the estimate using the relative per-pupil expenditures by state.

The judicial system (taxpayer) portion of this total is $15,995.

Income taxes[89]

As many studies have shown, there is a strong correlation between educational attainment and lifetime earnings.[90] Completion of high school adds about a quarter million dollars in lifetime earnings, on average, $88,940 on a net present value basis.[91] Nationwide, on average, almost a fifth of adults (over age 25) have not completed high school. Among low-income families, the record is much worse. But preschool education has been shown to increase the high school completion rate from 65% to a more

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[83] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at 153-154 (High/Scope Press, Ypsilanti, 1993).

[84] Prof. Mark Cohen (Vanderbilt Univ.) "The Monetary Value of Saving a High Risk Youth" (unpub 1997) in S Newman et al., "America's Child Care Crisis: A Crime Prevention Tragedy" (Fight Crime: Invest in Kids, Washington 2000) at 18 n.84.

[85] In fact, damage inflicted is higher in the earlier years but continues past age 40. Perry

[86] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at xvi, 84 et seq. (High/Scope Press, Ypsilanti, 1993).

[87] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at 159 et seq. (High/Scope Press, Ypsilanti, 1993).

[88] Victim costs included pain and suffering and risk and fear of death but omitted private security costs.

[89] There is also a multiplier effect of additional income in the economy, not computed here. On average, gross domestic product is 1.8 times wages and salaries. State domestic products are the following multiples of employee compensation: Arkansas 1.81, Louisiana 2.07, Mississippi 1.82, Texas 1.84. Computed from U.S. Commerce Department, Bureau of Economic Affairs data at www.bea.doc.gov/bea/regional/gsp/action.cfm (2000).

[90] E.g., JC Day and EC Newburger, "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings" (US Census 2002).

[91] Computed from Census study, taking into account timing of earnings differences and starting from an education investment at age 4.

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typical 82%,[92] an increase of 17 percentage points.[93]

To quantify the increase in earnings attributable to a preschool education, we discounted the net present value of increased earnings by the fraction of children completing high school. The result is conservative in a number of respects:

- it does not account for the children who attain higher levels of education than high school;
- it does not account for productivity increases, i.e., wage increases in excess of the inflation rate;
- it assumes full-time employment and thus does not account for the increased tendency to full-time, from part-time, employment;
- it does not account for the tendency for work-lives of less-educated persons to be shorter; and
- income data exclude the institutional population and thus overstate low-education average income, thereby understating the difference in income correlated with education.[94]

Once the income values were computed, average federal and state income tax rates were derived from U.S. Bureau of Economic Analysis data for personal income and income tax payments.[95]

Welfare

Education is inversely correlated with poverty and receipt of welfare assistance. Thus, 9.2% of high school graduates are below the poverty line, compared to 22.2% of high school dropouts[96] – an improvement of 13.0 percentage points. A study of high-quality preschool education showed that such education brings the incidence of welfare recipiency down from 80% to 59%, an improvement of 21 percentage points.

However, the studies of actual receipt of welfare with and without preschool education are of limited value because welfare reform dramatically changed the rules for receiving welfare assistance. To conservatively estimate the economic value of preschool education in reducing dependence on welfare, we ignored the not insignificant programs other than Transitional Assistance for Needy Families (TANF)[97] and conservatively assumed the savings to be one year of assistance at age 29, the national average net present value of which is $2,511.[98] Individual state values were also obtained.

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[92] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at 58 (High/Scope Press, Ypsilanti, 1993). Another study shows a more modest impact of 10.2 percentage points.
Chicago Longitudinal Study, Issue 1 at 10 (University of Wisconsin, Aug. 2000).

[93] Of course, an 18% dropout rate is still undesirably high.

[94] J.C. Day and E.C. Newburger, "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings" (US Census 2002).

[95] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Accounts Data, Annual State Personal Income, SA50 Personal tax and nontax payments – United States [and specified states], www.bea.doc/bea/regional/spi/action.cfm (2000). Note that Texas has no income tax.

[96] Census data in "Postsecondary Education Opportunity" at 15 (Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education, Oskaloosa, Iowa, Dec. 2001).

[97] E.g., food stamps, medicare.

[98] Assistance payments by state computed from total assistance and caseload, from HHS welfare reform web site, www.acf.dhhs.gov/programs/ofs/data/q400/TableF.htm, www.acf.dhhs.gov/news/stats/case-fam.htm, www.acf.dhhs.gov/news/stats/welfare.htm.

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In contrast, one study of preschool education impacts, under earlier welfare rules and including estimates for such programs as food stamps and Medicare, estimated the net present value of assistance savings (in 2002 dollars) at $3,396.[99]

Unemployment assistance

Attaining a high school education drops the probability of unemployment from 7.9% to 3.8%,[100] an improvement of 4.1 percentage points. To quantify the economic impact of this difference, we based a calculation on the most recent data available, by state, from the U.S. Department of Labor web site[101] for average weekly unemployment benefit, average duration of benefit,[102] and average fraction of unemployed receiving benefits.[103] The net present value for a working life (ages 25-65) is $875 of unemployment benefits foregone per average participant.

A high school diploma also insulates a worker from some of the vicissitudes of the labor market. Between 1970 and 2000, the unemployment rate for high school dropouts rose 3.3% while it rose only 0.9% for high school graduates.[104]

Other Public Benefits

Crime: Victim costs

This computation is described earlier, combined with a discussion of taxpayer benefits from reductions in crime. Preschool education saves victim costs of $71,981 in net present value per average preschool participant.

Participant Benefits

Child care

The lowest-cost child care in the nation is in Mississippi, averaging $3,380 per year for the care of a four-year-old.[105] Another estimate is $2300.[106] However, many low-income families cannot afford to pay anything for child care. A third source therefore estimates actual savings at $1215 per year (inflated to 2002 dollars), the net present value of two years of which is $2361. To account for state cost of living differences, we discounted this total by the per-pupil expenditure in each Entergy state.

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[99] L. Schweinhart et al., Significant Benefits: The High/Scope Perry Preschool Study Through Age 27 at 164 (High/Scope Press, Ypsilanti, 1993).

[100] 2000 Census data from "Postsecondary Education Opportunity" at 12-13 (Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education, Oskaloosa, Iowa, Dec. 2001).

[101] www.dol.gov, UI Data Summary.

[102] 2002 first quarter.

[103] 2001.

[104] Census data in Postsecondary Education Opportunity at 14 (Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education, Oskaloosa, Iowa, Dec. 2001).

[105] K. Schulman, "The High Cost of Child Care..." (Children's Defense Fund 2000) in S. Newman et al., "America's Child Care Crisis: A Crime Prevention Strategy" at 11 n. 46 (Fight Crime: Invest In Kids, Washington 2000).

[106] Research and Policy Committee, "Preschool for All - Investing in a Productive and Just Society" (Committee For Economic Development. 2002) at Appendix (low end of range).

[107] A.J. Reynolds *et al.*, "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers" at 9 (Institute for Research on Poverty, University of Wisconsin, Feb. 2002).).

Although we have accounted for this benefit as a participant benefit, it should be noted that a portion of these savings may accrue instead to taxpayer-funded sources. This is a further conservatism in the calculation of taxpayer benefits.

Earnings

This computation is described earlier, combined with a discussion of taxpayer benefits (income taxes). Preschool education increases lifetime earnings by at least $15,120 in net present value per average preschool participant.

CONCLUSION: PRESCHOOL EDUCATION FOR ALL

While the Entergy states are among the poorest in the nation, poor children in all 50 states and the District of Columbia face high hurdles in overcoming the educational and employment disadvantages that poverty brings. As shown above, poverty rates are exacerbated by the paucity of full-time employment opportunities available to those without high school diplomas. And the median income for families headed by men and women with only a high school diploma has actually fallen by 13% over the past 30 years.

High-quality preschool education makes higher education more likely for low-income children. Higher education leads to greater employment opportunities, higher income and associated payment of taxes, better health, lower crime rates, lower child care and welfare costs, and increased home-ownership.

Before a child can graduate from high school, that child must complete elementary school. Being retained in a grade often leads to a child's dropping out of school before high school graduation. Participating in high-quality preschool education programs lowers grade retention rates substantially. Early education programs increase school readiness of low-income children, and lower grade repetition and dropout rates. Preschool programs also increase a child's ability to profit from the education s/he receives later.

Yet even when children stay in school through high school, low-income and minority children are apt to be educated in the least well-maintained schools, have the least well-prepared teachers and inadequate support services, and have the highest dropout rates or lag far behind their more affluent contemporaries. Closing this education gap would make a substantial contribution toward closing the economic gap. But even with these great inequalities in education spending and resources in the public schools, poor and minority children who participate in high-quality preschool education programs can begin to close the performance gap, take advantage of the many opportunities that a better education provides, and greatly increase their cultural and economic contributions to the society at large.

CONCLUSION: PRESCHOOL EDUCATION FOR ALL

Budget for a National Preschool Education Program

As described earlier, there is little knowledge about the number of low-income[18] three- and four-year-olds currently enrolled in *high-quality* preschool programs outside of Head Start. In developing budgets, we have therefore only accounted for Head Start children. As a result, these budgets should be regarded as the upper bound of what is needed to capture the benefit of educating every low-income three- and four-year-old.

	Unserved children	Cost per child	TOTAL BUDGET
US	1,325,637	$5,950	$7,887,306,032
ARKANSAS	14,807	$4,690	$ 69,442,196
LOUISIANA	38,287	$5,259	$ 201,371,017
MISSISSIPPI	14,187	$5,101	$ 72,368,206
TEXAS	144,163	$5,728	$ 825,773,478

at 125% FPL

NPV BENEFITS

	Taxpayer		Public		Societal	
		$19,132,622,019		$65,357,841,636		$74,626,397,548
US	*2.4*		*8.3*		*9.5*	
Arkansas	*2.3*	$160,075,095	*8.0*	$554,672,729	*9.2*	$637,113,403
Louisiana	*2.3*	$461,657,267	*8.2*	$1,644,436,487	*9.5*	$1,905,555,398
Mississippi	*1.9*	$141,085,345	*6.9*	$495,732,243	*7.9*	$571,695,302
Texas	*2.2*	$1,799,988,376	*7.7*	$6,358,202,046	*8.9*	$7,332,394,874

Benefit:cost ratios in italics

Eight billion dollars is, of course, a large investment. But the $75 billion it returns in net present value makes preschool education for three- and four-year-old low-income children one of the greatest investment opportunities on the planet.

Providing a high-quality preschool education to all low-income children makes good economic sense. Not doing so leaves the nation vulnerable to poorly educated, poorly motivated, low-wage-earning individuals with a greater propensity toward criminal activity and all the ramifications of such activity. Health care costs, child care costs, and costs for special and remedial education all increase, while revenue from taxes and the multiplier effect from higher incomes disappear. The nation cannot afford to ignore the realities presented here. There must be a national policy of providing high-quality preschool education to all of the nation's children, but especially to those who can least afford to pay for it.

[18] For this purpose we define low-income as an income 125% of the Federal Poverty Line (FPL), a common standard for fuel assistance (LIHEAP) and other programs aimed at this population, although the Head Start limit (for 90% of participants) is 100% of the FPL. Such eligibility standards are inherently arbitrary, especially in high-cost states, and have often been supplanted by eligibility standards as high as 200% of the FPL.

APPENDIX 1: BENEFIT SUMMARIES

US	Participant	Non-participant public, incl Taxpayers	Total (Society)	Source
COST *2 yrs*		$ 12,282	$17,282	Head Start
Child care	$ 2,361			Reynolds et al (Chicago CPC)
School				
grade retention		$ 740		Reynolds et al (Chicago CPC), Ed. Dept.
special ed		$ 7,576		Reynolds et al (Chicago CPC), Ed. Dept, Perry
Crime				Perry
justice system, to age 28		$ 11,103		
adult justice system		$ 4,893		
victim costs, to age 28		$ 50,203		
victim costs, after age 28		$ 21,779		
Earnings	$15,120			Perry, Census
Income Taxes		$ 2,095		Perry, Census, BEA
Welfare*		$ 2,511	-$ 2,760	HHS
Unemployment*		$ 875	-$ 787	DOL, Census
TOTAL BENEFITS	$17,480	$101,774	$116,207	
BENEFIT:COST RATIO		8.3	9.5	

* transfer payments (no societal benefit except for estimated 10% admin cost)

Taxpayer benefits (partial)	$ 29,793	
Benefit:Cost Ratio	2.4	

ARKANSAS

	Participant	Non-participant public, incl taxpayers	Total (Society)
COST *2 yrs*		$ 9,380	$ 9,380
Child care	$ 1,748		
School			
grade retention		$ 548	
special ed		$ 5,610	
Crime			
justice system, to age 28		$ 8,221	
adult justice system		$ 3,623	
victim costs, to age 28		$37,174	
victim costs, after age 28		$16,127	
Earnings	$11,196		
Income Taxes		$ 1,611	
Welfare*		$ 1,197	$ 1,077
Unemployment*		$ 812	$ 731
TOTAL BENEFITS		$74,923	$86,059
BENEFIT:COST RATIO		8.0	9.2
Taxpayer benefits (partial)		$21,622	
Benefit:Cost Ratio		2.3	

LOUISIANA

	Participant	Non-participant public, incl taxpayers	Total (Society)
COST	*1 yr*	$ 10,510	$10,510
Child care	$ 7,036		
School			
grade retention		$ 635	
special ed		$ 6,503	
Crime			
justice system, to age 28		$ 9,529	
adult justice system		$ 4,199	
victim costs, to age 28		$43,087	
victim costs, after age 28		$18,692	
Earnings	$12,977		
Income Taxes		$ 1,732	
Welfare*		$ 1,181	$ 1,063
Unemployment*		$ 335	$ 301
TOTAL BENEFITS		$85,892	$99,531
BENEFIT/COST RATIO		8.2	9.5
Taxpayer benefits (partial)		$24,113	
Benefit Cost Ratio		2.3	

MISSISSIPPI

	Participant	Non-participant public, incl taxpayers	Total (Society)
COST	*1 yr*	$ 10,502	$10,502
Child care	$ 1,640		
School			
grade retention		$ 514	
special ed		$ 5,265	
Crime			
justice system, to age 28		$ 7,711	
adult justice system		$ 4,398	
victim costs, to age 28		$34,869	
victim costs, after age 28		$15,127	
Earnings	$10,502		
Income Taxes		$ 1,411	
Welfare*		$ 1,023	-$ 921
Unemployment*		$ 568	-$ 511
TOTAL BENEFITS		$69,885	$80,594
BENEFIT/COST RATIO		6.9	7.9
Taxpayer benefits (partial)		$19,889	
Benefit Cost Ratio		1.9	

TEXAS

	Participant	Non-participant public, incl taxpayers	Total (Society)
COST *2 yrs*		$ 11,456	$11,456
Child care	$ 2,074		
School			
grade retention		$ 650	
special ed		$ 6,556	
Crime			
justice system, to age 28		$ 9,754	
adult justice system		$ 4,298	
victim costs, to age 28		$44,103	
victim cost, after age 28		$19,133	
Earnings	$13,283		
Income Taxes		$ 1,567	
Welfare*		$ 1,156	-$ 1,040
Unemployment*		$ 890	-$ 801
TOTAL BENEFITS		$88,208	$101,723
BENEFIT/COST RATIO		7.7	8.9
Taxpayer benefits (partial)		$24,971	
Benefit/Cost Ratio		2.2	

APPENDIX 2: POVERTY IN THE ENTERGY SERVICE TERRITORIES

The failures of public education systems take place in the broader context of widespread poverty amongst America's wealth. We have detailed a numerical picture of that poverty in our earlier Entergy reports, "The Economics Of Low-Income Electricity Efficiency Investment" (November 2001) and "Protecting Low-Income Consumers: Building On Two Decades Of Lessons Learned" (November 2000). Here are additional measures of the extent of American and Southern poverty.

The South

- While the rates of people living in poverty in most of the United States did not change very much from 2000 to 2001 (11.3% to 11.7%), the poverty rate in the South increased from 12.8% to 13.5% in that one year – to more than 15% higher than the national average.[109] The South has the highest poverty rate of any region and is the only region where the rate increased in 2001.[110]
- While this percentage increase may seem small, it means that there were 810,000 more people living in poverty in the South in 2001 than in 2000 (13,515,000 vs. 12,705,000).[111]
- Not only is the South the region of the country with the highest percentage of poor people, the South is also falling behind — the poverty gap between the South and the nation is the largest it has been since 1992; and the fraction of poor people living in the South is the highest now (41.1%) since 1987-1989 and, before that, 1981, although the South has only 35.7% of the population.[112]
- In the Entergy states, Louisiana and Mississippi have made particularly impressive gains against poverty. All four Entergy states, despite some ups and downs, have participated in the general gradual national decline in poverty (11.7% in 2001, 11.3% in 2000, 13.5% in 1990, 13.0% in 1980).[113] However, the portion of the population in abject poverty (at or below the outdated Federal Poverty Line) is the highest in Arkansas (17.8%) since 1997 and, before that, in 1993. It is the highest in Mississippi (19.3%) since 1996.[114]
- The poverty rates in Arkansas, Louisiana and Mississippi (along with New Mexico) are the highest in the country (16.3%, 17.5%, 16.8% and 18.8%, respectively, based on 1999-2001 three-year averages).[115]

The Nation

- In 2001, the number of people in the United States who were officially labeled "poor" by the U.S. government rose to 32.9 million, or 11.7% of the population, up from 31.6 million (11.3%) in 2000.[116] The poverty rate has almost certainly risen further in 2002, due to the increase in unemployment

[109] U.S. Census Bureau, "Poverty in the United States: 2001" at 8, (Sept. 2002); US Census Current Population Survey (CPS).

[110] Center on Budget and Policy Priorities, "Census Data Show Increases in Extent and Severity of Poverty and Decline in Household Income" (September 24, 2002).

[111] Id. at 8.

[112] U.S. Census Bureau, Current Population Survey.

[113] This was not a continuous decline. For example, poverty rates rose to 15.1% in 1993 and 15.2% in 1983.

[114] U.S. Census Bureau, Current Population Survey.

[115] U.S. Census Bureau, "Poverty in the United States: 2001" at 9, 10 (Sept. 2002). New Mexico's rate was not statistically different from the other three.

[116] Id. at 1.

and long-term unemployment (see below). The amount by which poor people fall below the poverty line averaged $2,707 per person, the highest since recordkeeping began in 1979.[117]

□ Blacks are almost three times more likely to be poor than whites (22.7% vs. 7.8%, 2.9x) as are Hispanics (21.4%).[118]

□ While 11.7% of the total population is officially poor, 18.2% of children under six are living in poverty; in households headed by a woman (with no spouse present), nearly half the children (48.9%) are poor.[119] The average amount by which poor children are below the poverty line is the highest since records began in 1979.[120]

□ The number of "severely poor" people in the U.S. (those whose income is below one-half of the official poverty line) rose to 13.4 million in 2001, or 40.8% of all poor people.[121]

□ There are an additional 12.4 million "near poor" in 2001 (people whose incomes are at or above the official poverty line but still below 125% of that threshold), meaning that 16.1% of the U.S. population is poor.[122] As explained in the next section, these people are poor by any reasonable definition.

What is Poverty?

□ The numbers and percentages presented above reflect the federal government's assessment of poverty thresholds, whereby if a family of four has an income greater than $18,104 per year, they are not considered poor.[123] These official poverty level measures do not take into account the change in the cost of basic goods (such as food and housing) relative to other goods since the 1960's, when the official poverty measure was developed.[124] In reality, the government's official "poverty line" is well below the amount actually needed to sustain a family.

Seniors

□ Of all people 65 years of age and older in the United States, 10.1% live below the federal poverty line (1998-2000 average). In Arkansas, the rate is 15.2%; in Louisiana, 16.8%; in Mississippi, 17.6%; and in Texas, 13.0%.[125]

□ The fight against poverty among seniors is leveling off (10.1% of seniors were poor in 2001, 9.9% in 2000, 9.7% in 1999, 10.5% in 1997-1998, 12.2% in 1990, 15.7% in 1980). However, Black seniors remain almost three times more likely to be poor than whites (21.9% vs. 8.1%, 2.7x). The fraction of poor seniors living in the South (10.4% in 2001, 10.5% in 2000) is the highest since 1991.[126]

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[117] Center on Budget and Policy Priorities, "Census Data Show Increases in Extent and Severity of Poverty and Decline in Household Income" (September 24, 2002).
[118] U.S. Census Bureau, Current Population Survey
[119] U.S. Census Bureau, "Poverty in the United States: 2001" at 4, (Sept. 2002).
[120] Center on Budget and Policy Priorities, "Census Data Show Increases in Extent and Severity of Poverty and Decline in Household Income" (September 24, 2002).
[121] U.S. Census Bureau, "Poverty in the United States: 2001" at 4, (Sept. 2002) at 9.
[122] Id. at 9.
[123] Id. at 5.
[124] Id. at 13.
[125] U.S. Census Bureau.
[126] Id., Current Population Survey

□ When looking at seniors who live below 125% of the poverty line, the numbers jump to 16.6% nationally and 19.3% in the South. For Black seniors, the rate skyrockets to 32.1%.[127]

□ When out-of-pocket medical costs are factored in to the official poverty thresholds, the rate of elderly people in the U.S. living in poverty rises from 10.1% to 17.1%.[128]

Unemployment

□ Unemployment is rising in much of the Entergy territory, as in the nation at large, hitting peaks that have not been suffered in 6-8 years. In the last year (October 2001 – September 2002), the national unemployment rate has ranged between 5.4%-6.0%, the highest since 1996 – the last time national unemployment hit 6.0% was in 1994, eight years ago. (These rates do not include workers who are underemployed, involuntarily employed part-time, or who have given up looking for jobs.)[129] Unemployment for the first eight months of 2002 has averaged 5.8%, 22% higher than the 2001 average of 4.8%. The Congressional Budget Office projects that unemployment will remain about 6% until the latter half of next year.[130]

□ Furthermore, long-term unemployment is at record levels. The fraction of workers still without a job when their state unemployment benefits run out has been at the highest levels ever in July, August, and September 2002.[131] The number of workers exhausting their extended federal benefits during the first seven months of the program (March-September, 2002) is triple the number during a comparable period of the early 1990's recession[132] — an estimated 55% of them have not found work.[133] Yet most unemployed workers have less than two months of savings.[134]

□ Louisiana unemployment has ranged between 5.6%-6.7% since June 2000, the worst since 1998 – the last time before December 2001 that Louisiana unemployment hit 6.7% was 1996, six years ago.[135] The number of workers exhausting state unemployment benefits before finding work has jumped 85% in the last two years.[136] Despite a well-funded unemployment benefits trust fund, almost 80% of unemployed Louisiana workers are classified as ineligible for benefits which, at their maximum, keep a family below the poverty line.[137]

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[127] "Annual Demographic Survey," A Joint Project Between the Bureau of Labor Statistics and the Bureau of the Census (March Supplement, 2002).

[128] U.S. Census Bureau, "Poverty in the United States: 2001" at 16 (September 2000).

[129] US Bureau of Labor Statistics.

[130] Center on Budget and Policy Priorities, "Census Data Show Increases in Extent and Severity of Poverty and Decline in Household Income" (September 24, 2002).

[131] In September, 44% of workers receiving benefits six months before were still receiving benefits at the time of exhaustion of benefits ("exhaustion rate"). W. Primus, et al., "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002).

[132] This is partly because the current benefit period, 13 weeks in most states, is half the benefit period in the 1980s. The program is scheduled to expire December 28, 2002, if Congress does not act before then. W. Primus, et al., "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002).

[133] W. Primus et al., "The Price of Inaction" (Center on Budget and Policy Priorities, October 1, 2002).

[134] MIT economist Jonathan Gruber, "The Consumption Smoothing Benefits of Unemployment Insurance," 87 The American Economic Review 192 (March 1997) in W. Primus et al., "Number of Workers Who Have Exhausted Federal Unemployment Insurance Benefits Passes the One Million Mark" (Center on Budget and Policy Priorities, September 25, 2002).

[135] US Bureau of Labor Statistics. State data are through August 2002.

[136] July-September periods; 13,875 have also exhausted federal benefits (about 40% of those who received the benefit). W. Primus, et al., "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002); see W. Primus et al., "Number of Workers Who Have Exhausted Federal Unemployment Insurance Benefits Passes the One Million Mark," Table 1 (Center on Budget and Policy Priorities, September 25, 2002).

[137] 78% (the national average is 57%); M. Emsellem et al., "Failing the Unemployed" (Economic Policy Institute, Center on Budget and Policy Priorities, and National Employment Law Project, March 2002). The poverty level assumed is for a one parent, two child family.

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□ Arkansas unemployment has been above 5.0% since April 2001 (except for two months), the highest since 1998.[138] The number for workers exhausting state unemployment benefits before finding work has doubled in the last two years.[139]

□ Mississippi unemployment has been above 6.0% since October 2001, the highest since 1996 (excepting two months in 2000) – it hit 7.1% in April 2002, the highest since 1992, eight years ago.[140] The number of workers exhausting state unemployment benefits has risen 76% in the last two years.[141] Further, almost two-thirds of unemployed Mississippi workers are not eligible for benefits, which, at their maximum, keep a family below the poverty line.[142]

Texas unemployment has been above 5.0% since July 2001, the highest since 1998. It hit 6.2% in April-May 2002, the highest since 1994, eight years ago.[143] The number of workers exhausting state unemployment benefits is up 76% in the last two years.[144] More than two-thirds of unemployed Texans are not eligible for benefits.[145]

Poverty and Education

□ In general, states with high education levels have the highest per capita incomes, the shortest recessions, and the lowest unemployment rates. By contrast, Arkansas ranks 49th in the nation in the percent of adults who have bachelors or advanced degrees, and the gaps in education and income between rich and poor and white and minority are glaring.[146]

□ In Arkansas, a poor student starting college has 1/7 the chance of graduating as does a student from a wealthier background, in part due to the lack of financial aid available.[147]

□ Before children can go on to college, they must first complete high school, and here again, low-income children fall short: the average high school graduation rate for all dependent 18- to 24-year olds was 81.1% from 1996 to 2000, but poor children were one-third less likely to graduate (62.8%) than were wealthy children (92.7%) (whose families earn over $75,000 per year).[148]

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[138] US Bureau of Labor Statistics.

[139] July-September period; 11,705 have also exhausted the federal benefit (about half of those receiving the benefit). W. Primus, et al., "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002); see W. Primus et al,, "Number of Workers Who Have Exhausted Federal Unemployment Insurance Benefits Passes the One Million Mark," Table 1 (Center on Budget and Policy Priorities, September 25, 2002)..

[140] US Bureau of Labor Statistics.

[141] July-September period; 14,383 have also exhausted federal benefits (about half those receiving federal benefits). W. Primus, et al,, "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002); see W. Primus et al., "Number of Workers Who Have Exhausted Federal Unemployment Insurance Benefits Passes the One Million Mark," Table 1 (Center on Budget and Policy Priorities, September 25, 2002)..

[142] 64%; M. Emsellen et al., "Failing the Unemployed" (Economic Policy Institute, Center on Budget and Policy Priorities, and National Employment Law Project, March 2002). Poverty line computation assumes a one parent, two child family.

[143] US Bureau of Labor Statistics.

[144] July-September period; 109,296 have also exhausted federal benefits (about 40% of those receiving federal benefits). W. Primus, et al., "370,000 Workers Exhaust Temporary Federal Unemployment Benefits in September Alone" (Center on Budget and Policy Priorities, October 29, 2002); see W. Primus et al., "Number of Workers Who Have Exhausted Federal Unemployment Insurance Benefits Passes the One Million Mark," Table 1 (Center on Budget and Policy Priorities, September 25, 2002).

[145] 70%; M. Emsellen et al., "Failing the Unemployed" (Economic Policy Institute, Center on Budget and Policy Priorities, and National Employment Law Project, March 2002).

[146] "Miles to Go: Arkansas" at 6, 8 and 20, Southern Education Foundation (2002).

[147] Robert Johnston and Lu Hardin, "Student Success: Graduation and Retention in Arkansas" Arkansas Department of Higher Education (July 17, 2001).

[148] "College Participation by Family Income, Gender and Race/Ethnicity for dependent 18 to 24 year Olds 1996 to 2000," Postsecondary Education Opportunity, no.114, at 3 (Mortenson Research Center on Public Policy Analysis of Opportunity for Postsecondary Education, Oscaloosa, Iowa, Dec. 2001).

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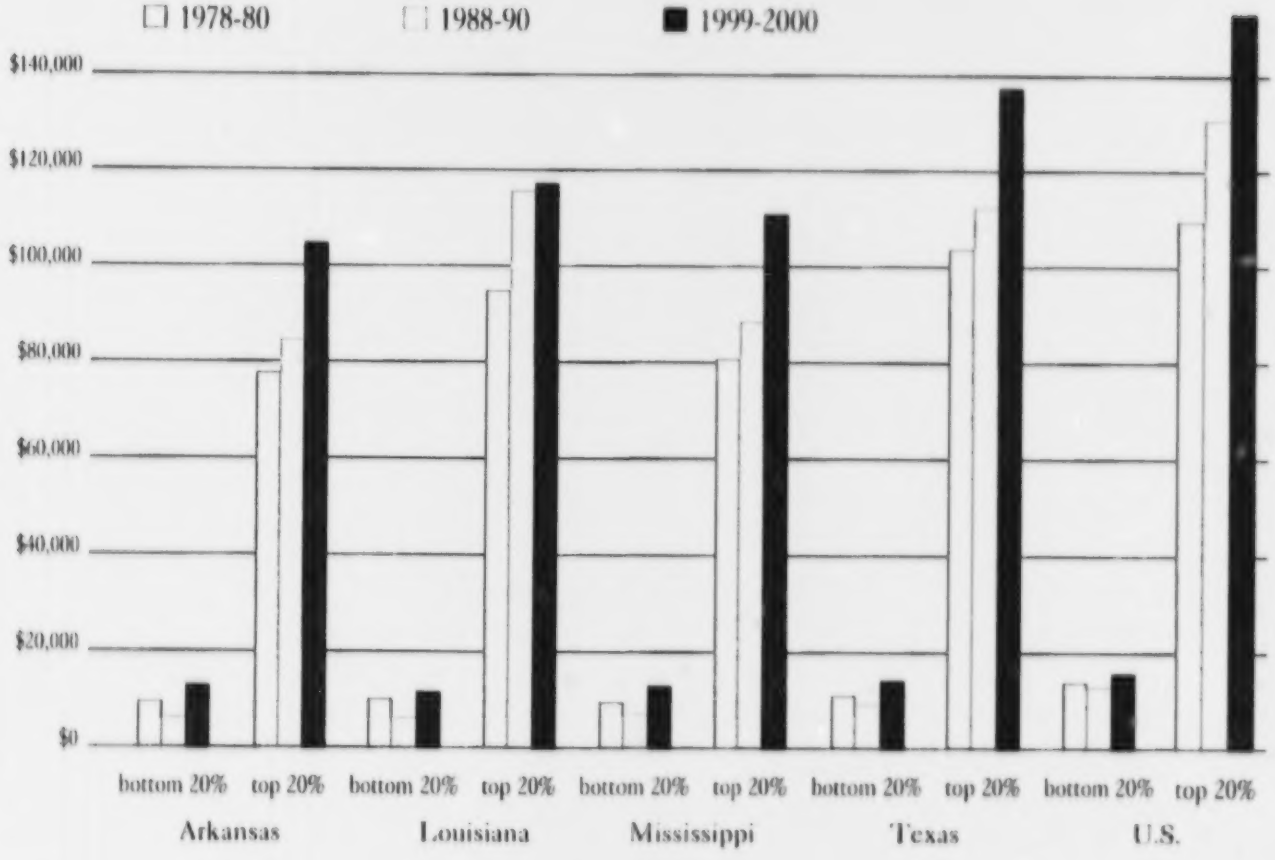
The gap between rich and poor is large and, in most states, growing

FAMILY INCOME INEQUALITY



Source: Center on Budget and Policy Priorities/Economic Policy Institute for U.S. Census

Families,	1999$	1978-80	1988-90	1999-2000	change
Arkansas	bottom 20%	$9,248	$9,161	$12,271	+33%
	top 20%	$79,185	$85,218	$104,745	+32%
Louisiana	bottom 20%	$10,574	$7,437	$10,130	-4%
	top 20%	$96,405	$116,112	$117,374	+22%
Mississippi	bottom 20%	$9,242	$8,248	$11,714	+27%
	top 20%	$82,170	$90,284	$110,509	+34%
Texas	bottom 20%	$12,139	$10,975	$12,568	+4%
	top 20%	$104,062	$112,924	$138,001	+33%
U.S.	bottom 20%	$13,646	$13,018	$14,618	+7%
	top 20%	$101,361	$120,869	$145,986	+44%

Source: J. Bernstein et al., Pulling Apart (Center on Budget and Policy Priorities and Economic Policy Institute, from US Census, 2002).

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